

CLAIMS

[1] A polyurethane elastic fiber containing inorganic compound particles that have an average particle size of 0.5 to 5  $\mu\text{m}$ , and that show a refractive index of 1.4 to 1.6, and having at least one protruded portion that has a maximum width of 0.5 to 5  $\mu\text{m}$  in the fiber surface, per 120- $\mu\text{m}$  length in the fiber axis direction.

[2] The polyurethane elastic fiber according to claim 1, wherein the polyurethane elastic fiber contains from 0.05 to 10% by weight of inorganic compound particles.

[3] The polyurethane elastic fiber according to claim 1, wherein the inorganic compound particles are porous silica having a specific surface area of 100 to 800  $\text{m}^2/\text{g}$ .

[4] The polyurethane elastic fiber according to claim 1, wherein the coefficient of dynamic friction thereof against a knitting needle is from 0.2 to 0.6.

[5] The polyurethane elastic fiber according to claim 1, wherein the coefficient of static friction thereof against the polyurethane elastic fiber is from 0.3 to 0.6.

[6] The polyurethane elastic fiber according to claim 1, wherein the change with time (after allowing the polyurethane elastic fiber to stand for 16 hours at 70°C) in the coefficient of static friction thereof against a nylon yarn is 0.1 or less.

[7] A process for producing a polyurethane elastic fiber, which comprises finely dispersing inorganic compound particles having an average particle size of 0.5 to 5  $\mu\text{m}$  and showing a refractive index of 1.4 to 1.6 in an amide-type polar solvent, and dry spinning a polyurethane spinning dope containing from 0.05 to 10% by weight, based on the polyurethane, of the inorganic compound particles.

[8] The polyurethane elastic fiber according to claim 2, wherein the inorganic compound particles are porous silica having a specific surface area of 100 to 800 m<sup>2</sup>/g.

5 [9] The polyurethane elastic fiber according to claim 8, wherein the coefficient of dynamic friction thereof against a knitting needle is from 0.2 to 0.6.

10 [10] The polyurethane elastic fiber according to claim 9, wherein the coefficient of static friction thereof against the polyurethane elastic fiber is from 0.3 to 0.6.

15 [11] The polyurethane elastic fiber according to claim 10, wherein the change with time (after allowing the polyurethane elastic fiber to stand for 16 hours at 70°C) in the coefficient of static friction thereof against a nylon yarn is 0.1 or less.